

MARS PATHFINDER

Mars Pathfinder Spacecraft (P-47994Bc)

Just two months prior to launch, engineers and technicians from the Jet Propulsion Laboratory perform detailed inspection of the Mars Pathfinder spacecraft. Both the microrover, named *Sojourner*, and the lander are being thoroughly checked one last time before the lander petals are closed and the spacecraft is launch-ready.

In this image, two of the spacecraft's three petals are shown partially closed. The petals will be used to automatically "right" the lander after it rolls to a stop on the Martian surface. Each petal is tiled with dark blue gallium arsenide solar cells, which will provide daytime power to the lander; a silver zinc battery inside the lander will provide power during the cold Martian nights.

The *Sojourner* microrover is shown in its "stowed" position, attached to one petal; *Sojourner's* six wheels have been retracted in order to allow the microrover to fit within the allotted space inside the Pathfinder lander.

Final assembly of the Mars Pathfinder spacecraft took place in the fall of 1996 at NASA's Kennedy Space Center in Florida. Pathfinder's one-month-long launch window opens December 2, 1996.

The Mars Pathfinder Mission

Mars Pathfinder, the second of the National Aeronautics and Space Administration (NASA) Discovery-class missions, will be the first U.S. spacecraft to land on the Red Planet since the Viking landers more than 20 years ago. Consisting of a cruise stage, an aeroshell, a lander, a microrover, and several instruments, Pathfinder will land on the Martian surface on July 4, 1997.

Pathfinder's microrover, along with three science instruments — a stereoscopic imager with spectral filters on an extendable mast; an atmospheric structure instrument/meteorology package; and an alpha proton X-ray spectrometer — will conduct detailed investigations of Mars' surface. The data will include information on surface geology, elemental analysis of rocks and soil, magnetic properties of dust, and atmospheric investigations such as daily variations in weather.

The landing site chosen for Pathfinder is at the mouth of a giant, catastrophic outflow channel called Ares Vallis. The site offers potential for identifying and analyzing a wide variety of crustal materials from many different regions on Mars.

The Jet Propulsion Laboratory (JPL) of the California Institute of Technology manages the Mars Pathfinder mission for NASA's Office of Space Science.



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Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

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